(19) World Intellectual Property Organization International Bureau

(43) International Publication Date 12 January 2006 (12.01.2006)

(10) Into

(10) International Publication Number WO 2006/004070 A1

(51) International Patent Classification⁷: 7/04, 29/08

H041. 5/16,

(21) International Application Number:

PCT/JP2005/0 12272

(22) International Filing Date: 28 June 2005 (28.06.2005)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

2004-193040

30 June 2004 (30.06.2004) JI

- (71) Applicant (for all designated States except US): RICOH COMPANY, LTD. [JP/JP]; 3-6, Nakamagome 1-chome, Ohta-ku, Tokyo, 1438555 (JP).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): KADOWAKI, Yukio [JP/JP]; 242-6, Hourencho, Nara-shi, Nara, 6308113 (JP).
- (74) Agent: ITOH, Tadahiko; 32nd Floor, Yebisu Garden Place Tower, 20-3, Ebisu 4-chome, Shibuya-ku, Tokyo 1506032 (JP).

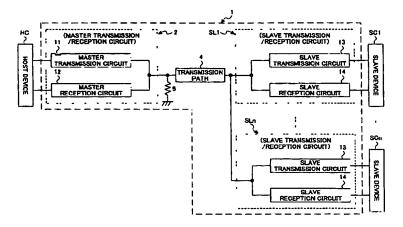
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, HD, HL, IN, IS, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV,MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: SERIAL COMMUNICATION DEVICE, METHOD THEREOF AND COMMUNICATION SYSTEM USING THE SAME



(57) Abstract: A compact serial communication device is disclosed that is formed from simplified circuits on a master side and a slave side and does not need a synchronous signal and a switching unit for switching transmission and reception operations, and is able to reduce load of the slave side. The master transmission/reception circuit outputs a serial data signal DATA to a transmission path with the serial data signal DATA being generated by superposing a low level superposition pulse on a clock signal, when the clock signal is at the high level, according to an output data signal to be output to the slave transmission/reception circuits; the slave transmission/reception circuits superposes a high level superposition pulse on the serial data signal DATA input from the transmission path according to an output data signal to be output to the master transmission/reception circuit when the clock signal is at the low level.